Research for educational planning:

notes on emergent needs

William J. Platt

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Preface

In 1965 the International Institute for Educational Planning published *Educational Planning: an Inventory of Major Research Needs*. This Inventory was compiled after extensive consultations with producers and users of research, and in the light of the conclusions reached at a study seminar held at Bellagio in July 1964.

With all its inevitable shortcomings this publication proved an invaluable aid, both to the Institute itself in setting the priorities for its own research, and evidently to many other institutions, judging by the speed with which stocks were exhausted and by the amount of new research carried out on many of the twenty-five priority subjects listed.

It is undoubtedly true that the volume of this research has been less than might have been wished, particularly in view of the serious lack of studies in some of the fields which are essential for the orientation of educational policy; from this point of view, the 1965 Inventory still has a certain relevance. But in recent years educational systems, their aims and their organization, have developed so rapidly that many crucial questions which arise today, and which give rise to precise research needs, were not even raised in 1965. For this reason, and bearing in mind the interest shown in the previous publication, it was decided that a fresh study should be undertaken, from a new angle, of the whole question of research needs.

To this end, the Institute invited a number of its collaborating institutions and consultants throughout the world to submit information on their own recent and current research and to suggest new research questions which they felt should be given special attention in the future. More than forty institutions and individuals responded; we thank them once again for their valued co-operation. Their ideas and suggestions were then discussed at a Workshop held in Paris in July 1969, attended by the Directors of the four Unesco Regional Training Centres and by representatives of universities and other training and research bodies with a special interest in the problems of educational planning. This workshop was organized and directed by the Institute's former Director, Mr. Philip H. Coombs, ably assisted by Mr. William Platt, Miss Madeleine Alpert and Miss Lucila Arrigazzi.

The volume which the Institute now presents is based, in the main, on the background documentation prepared for this workshop, as mentioned above, and on its actual discussions; it has been drawn up by Mr. William Platt, the rapporteur, who was at that time a resident expert consultant to the Institute, and to whom we are very grateful for the important work he thus contributed.

By its very nature the present report is in no sense a revised version of the 1965 *Inventory*. The list of twenty-five precise subjects in that work has been replaced by a wide survey of the main problems, both actual and potential, in the field of educational planning which, in the general opinion of the Workshop, deserve to be the subjects of urgent new research.

In the first place, an attempt has been made to identify and define a series of problems and difficulties recently brought to light, or given special added importance, by the evolution of educational systems; and, secondly, for each of these main problems, the subjects which appear to call for special attention by researchers in all the specialised fields of educational science have been grouped into research 'clusters' of related questions.

Conceived on these lines, this report does not profess to cover exhaustively all the possible subjects, to set out priorities, or to suggest to researchers the best, or any, angle of approach to the necessary studies. These unavoidable limitations notwithstanding, the Institute considers it important to place these fresh thoughts before the world community of research producers and consumers without delay, in the hope that some of the questions raised will help to accelerate the search for solutions which each passing day renders more urgent.

RAYMOND POIGNANT
Director, IIEP

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Organization of this report

Chapter 1 sets out the premises, definitions and criteria on the basis of which Workshop participants selected research needs.

Chapter 2 contains the findings of the Workshop regarding emergent research needs for the early 1970s. They are organized into fifteen clusters, each of which spans a group of related issues which have been assessed by the Workshop participants as deserving of priority attention.

Chapter 3 compares the current state of the art in educational planning with that in 1965, based on comparisons between this report and the inventory of research needs prepared by the IIEP in 1965.

Finally, proposals for international co-operation in research on educational planning and development are advanced in Chapter 4.

1. Criteria for selecting research needs

Since the field of research needs for educational planning and development is large and diverse, it is appropriate to try to define the area of concentration of this publication, just as it was necessary to evolve such a focus during the course of the five-day Workshop on which this publication is based.

The first premise adopted by the Workshop participants was that planners are of greatest help to decision-makers and policy-makers when they identify and illuminate *emergent problems,* i.e., imminent issues that will become increasingly difficult to handle, and when they project the probable consequences of decisions and policy choices with respect to these present and prospective problems.

The second premise, stressed by the basic discussion paper[1] sent to participants, was that the strategy of linear expansion which most of the world's educational systems have been pursuing for more than a decade is no longer adequate and should be replaced by a strategy which emphasizes qualitative changes in structure, content and methods and in the relationships of education to the needs of society.[2] Thus qualitative reform commanded the Workshop's main attention, even though difficult expansion problems remain to be solved.

The third premise was that the Workshop should concern itself with research directly useful to educational planners and policy-makers. Such research includes studies aimed at producing insights and understandings, developing methodologies, defining planning factors and relationships, and determining input-output coefficients, all to contribute to planning and decision-making. Research thus delimited needs to meet not only the traditional criteria imposed by researchers—those of validity, reliability, and replicability—but also the criterion generally imposed by planners—that of relevance,[1] i.e. relevance to planning and policy-making.

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[1] Included as Appendix D of this report.

[2] For a general discussion of the whole topic, see also C. E. Beeby (ed.), *Qualitative Aspects of Educational Planning,* Paris, Unesco/IIEP, 1969.

Other orientations considered by Workshop participants are those developed in the Basic Discussion Paper (Appendix D). In that paper several distinctions germane to selecting research needs were made.

The Workshop participants were thus willing, for purposes of their work, to use the term 'research' as comprehending what is normally included in 'research and development'. Research by itself is ordinarily viewed as being undertaken to generate new knowledge, but without specific outcomes known in advance. Development, on the other hand, is ordinarily viewed as being designed to produce a desired process or methodology for solving a known group of problems. The term 'applied research' is quite interchangeable with this definition of 'development'.[2]

The dichotomy between 'pure' and 'applied' research tends to be more mischievous than useful in this context; a different set of classifications is more functional. Because the Workshop was interested in that research which is relevant to the needs of planners and policy-makers, the orientation was distinctly toward development and applied research, but that is not to say that some of that research might not also be fundamental in the conventional sense. Inquiry that sets out in search of solutions to particular practical problems often results in generating new fundamental knowledge: Pasteur, for example, made important discoveries in the course of solving a practical problem for the brewing industry. Therefore, it is inevitable that the following conclusions from the Workshop include some research needs that are close to the frontiers of basic research, while others can be placed toward the development end of the Research and Development continuum.

With the orientation just described, it is clear that the agenda of the Workshop, and therefore the form of this report, will differ structurally from the contents of a publication which undertakes to describe the state of all research in international development education. The latter task was ably done in the American Educational Research Association publication of June 1968, entitled *International Development Education.*[3]

Workshop participants recognized that the domain of research of interest to planners and policy-makers is also not entirely congruent with the domain of research often referred to as 'pedagogical research'. As used here, the term 'pedagogical research' means that research which is conducted to produce knowledge about teaching and learning processes. Included would be studies of curriculum design and development, of evaluation and testing of learning outcomes, of teaching methodologies and aids, of language development, and of other learning phenomena. Thus defined, pedagogical research comprehends a large and significant domain, but the Workshop chose to include only that portion of this domain which bore directly on emergent problems of concern to planners and policy-makers. As is discussed in chapter 3, the Workshop participants believe it is useful now to join some of the concerns of 'planning research' and 'pedagogical research'.

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[1] For a discussion of the interests of planners and researchers, see Kjell Eide, *Research and Planning in Education,* Paris, OECD, 1969 (DAS/EID/69.35).

[2] Operations, which draw upon the results of research and development, are concerned with producing certain goods or services. While both operations and development are concerned with applications, the desired outcome of development is a process, i.e. a generalizable set of operations. In both development and operations, the desired outcomes are known in advance.

[3] See *Review of Educational Research : International Development Education,* Washington, D.C., June 1969 (Vol. XXXVIII, No. 3).

The participants were under no illusion that every problem facing planners and policy-makers is 'researchable'. Many issues call not for research but for action on the basis of judgement and existing knowledge. In the time available, however, it was not feasible to apply the test of researchability to each of the questions raised by the Workshop, nor was it feasible to explore what research approaches might be most efficacious in attacking particular questions.

In short, the potential research questions and problems presented in the next chapter were considered by the Workshop to be timely and important to the further advancement of educational planning and development in developing countries. No claim is made, however, that the list is complete or that all topics are of equivalent priority.

2. Research clusters

In the following pages the general scope of each of fifteen clusters of emergent issues is outlined, together with a list of questions on which research findings would advance the practice of educational planning and policy-making.

The research clusters can be conveniently grouped within six headings or themes, as follows:

A Educational institutions can perform better as systems or sub-systems if research results will help clarify and mediate educational objectives and priorities and if benefit-cost calculations can be broadened to comprehend more of what society and individuals expect from education (**Clusters 1 and 2**);

B Planning can more effectively allow for the reciprocal influences of economic development on education and education on economic development if research can throw light on the feasible linkages between the school system and the changing world of work, including the rural transformation (**Clusters 3, 4, 5, 6**);

C Potential exists for improving the internal efficiency of school systems by research directed toward reducing wastage and repeaters, toward strengthening evaluation procedures, toward individualizing instruction and toward fostering those environments which will institutionalize innovation (**Clusters 7, 8, 9, 10**);

D Further educational advance depends in part on finding ways to bring new financial resources to support education, and on improving the capabilities and effectiveness of teachers as the key human resource in education (**Clusters 11 and 12**);

E Training and educational institutions outside the formal school system appear to offer opportunities to help meet key human development needs (**Cluster 13**);

F Research is needed to strengthen aspects of educational governance, management, and planning, particularly those aspects that result in broadening participation in educational policy-making and in sharpening and applying advanced concepts and tools of management (**Clusters 14 and 15**).

The following formulations of the research clusters within the six themes are deliberately open-ended, to encourage a variety of types of inquiries and research approaches by investigators from many social science disciplines and combinations of disciplines.

A. Performance of educational systems

The ability to view educational institutions as parts of systems and sub-systems has made planners and decision-makers aware of the necessity to plan and operate educational endeavours as systems and to make provision for assessing and correcting their performance. The discipline of systems management includes the need to specify clearly the objectives (or benefits sought); to formulate alternative approaches for meeting the objectives (often using a model to express relationships among the variables and to identify constraints); to design alternative solutions keeping in mind the resource constraints; to select the programme offering the best prospect of achieving objectives at lowest cost; to implement the selected programme and manage it with built-in, continuing evaluation procedures so that departures from the plan can set in motion necessary corrections.

Of the foregoing steps in viewing education as systems or sub-systems, Workshop participants believed that several areas deserve priority by research personnel. Two concerns that are treated in this research cluster are those of clarifying and mediating educational objectives and priorities, and of filling certain gaps necessary to render benefit-cost studies more useful in selecting and evaluating educational programmes. Some other steps in applying systems logic to education are treated in subsequent research clusters, particularly under theme **C**, 'Internal Effectiveness of Educational Systems'.

Cluster No. 1

Clarifying educational objectives

If educational systems are to be evaluated, if their efficiency is to be improved, or if more effective systems are to be designed, it is essential to begin with a clarification of educational objectives, first in over-all terms—what society expects from education—and then specifically—what is expected from each level, institution and course.

Long-accepted purposes of education, such as the liberation of talent and intellect, and the preparation of students for membership and participation in socio-economic-political systems, now need to be clarified and translated into the specific educational content and method most likely to achieve the objectives. Research can help those responsible for educational policy to make better choices among competing objectives in environments of limited resources.

The reciprocal influences of education on society and society on education lend new importance to studying the content of educational objectives and the processes by which they are arrived at. In the past, schools and universities were expected mainly to give continuity to any given societal pattern, but today they are also expected to help reshape society.[1] This reflects the fact that man throughout the world is increasingly confident that he can more nearly design and shape his own future, and that education is a principal instrument for doing so.

In setting educational policy there exist national allocation problems; for example, those of making judgements on the balances between programmes for youth and for adults, for rural and for urban areas, for correcting social injustice and for maximizing economic growth. These programmes all compete in some measure for the same scarce resources. Policy-makers must select the mixtures or balances appropriate to over-all development needs and goals. By the very act of adopting any national budget for education, officials have inevitably taken positions on these and other difficult choices. Research has an opportunity to make these implicit judgments explicit, to show what consequences resulted from past choices and to help anticipate the outcomes of today's and tomorrow's choices.

Consider, for example, the dependence on education to help correct economic or social inequities that have accumulated through historical, social and political practices. Through such practices sub-populations, identified by ethnic group, social class, geographical origin, linguistic group, or other differentiation, have become disadvantaged in relation to majority populations. Devoting extra resources to compensatory education of such groups may conflict with allocating the same resources to an educational programme likely to produce the largest number of school completers immediately employable.

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[1] This current trend was anticipated by a number of earlier pioneers who proposed an active instrumental role for education. Examples are Plato, Dewey, Whitehead, Counts and others.

Put more broadly, there is often competition among educational objectives, which poses the dilemma of finding a balance between educational measures designed to maintain maximum economic advance and measures giving equal opportunity for education as a prerequisite for political democracy and citizenship. The latter course may retard productivity increases, thus postponing the day when the developing country achieves a viable economic position. And yet, in many cases, the attainment of a viable economic position may be the only true basis for political sovereignty and for further educational development. Decisions of this kind pose complex policy issues. In the absence of research findings, however, the issues are decided only by some combination of influence, pressure and tradition.

At another level of resource allocation, recent provocative research findings suggest that nutritional deficiencies can result in permanent degradation of learning abilities and hence of realization of intellectual potentials. Accordingly, rational strategies that will allow educational efforts to succeed may need to incorporate both components—education itself and improved nutrition (together with supporting educational programmes about improved nutrition).

- By what processes are society's goals defined? By what processes are the objectives of education clarified and expressed? What economic, political, cultural, and social objectives are explicit or implicit in educational goals? Conversely, what educational goals are explicit or implicit in economic, political, cultural and social goals? Starting from the empirical base of observing the actual behaviour of the educational system, what can be inferred as to the *de facto* goals of the system? How consistent are the *de facto* goals with the stated purposes and the conventional rhetoric?

- What procedures allow for systematic examination and resolution of potential conflicts among competing educational objectives, such as contributing to middle and high-level employment, broadening the base of citizenship participation, or correcting linguistic or ethnic discrimination?

- What is an efficient and socially desirable balance in allocating resources between primary education and nutritional programmes, considering the interdependence of learning rates and minimal nutritional practices?

- What are the effects of implicit weighting or preferences given to different types of students served by the educational system or sub-system? What is the impact of educational efforts that by intent or otherwize serve students of different mental and social characteristics? How much of so-called educational achievement is in fact a mere reflection of family background or self-selection of students? Is it possible to prejudge what kind of students would be most successful in particular educational efforts? [1]

- In the design of instructional content and method what relative weights should be given to such educational objectives as the acquisition of concrete knowledge, problem-solving abilities, openness and tolerance, ability for co-operation, creativity, etc.? What particular pedagogical techniques are most effective for attaining each such objective? [1]

- Do international assistance agencies, both multilateral and bilateral, influence national and local educational goal-setting? In what way? How do models of education in other nations influence local goal-setting?

- What new methodologies of goal-analysis are needed to increase the productivity of research in the foregoing inquires? Can simulations and gaming techniques help?

Cluster No. 2

Measuring indirect and non-monetary benefits of education

During the last few years important contributions to understanding investments in education have been made by the use of rate-of-return analysis, which is part of the larger logic of benefit-cost approaches.[2] In rate-of-return analyses, the income—individual and social—associated with various levels and types of educational attainment is compared with the individual and social costs of providing the particular types of education. The hope has been that the results of these rate-of-return analyses would eventually provide guidance for allocating resources *within* education (by level or type of education) and for allocating resources *to* education (in comparison with the profitability of other forms of social or private investment).

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[1] Adapted from an unpublished OECD paper by Kjell Eide entitled *Research Policy in Education,* October 1968.

[2] For a fuller treatment of this subject see Maureen Woodhall, *Cost-Benefit Analysis in Educational Planning,* Paris, Unesco/IIEP, 1970 (Fundamentals of Educational Planning, 13).

Because of data deficiencies, rate-of-return analyses require some rather heroic assumptions on such matters as the effects of uncompleted education, the effects of unemployment, and the proportion of earnings properly attributable to education. These assumptions may not prevent some use of rate-of-return results for policy on allocations *within* education, since many of these decisions depend only on relative, not absolute, rates of return. Even so, care must of course be taken to consider the sensitivity of results to some future set of earnings differentials that may depart significantly from today's or yesterday's earnings differentials. But, with precautions, it seems likely that rate-of-return findings, combined with other considerations, can begin to play some part in guiding intra-education allocations.

The immediate prospect for using rate-of-return findings in allocations *to* education is less bright. Here the heroic assumptions necessary to complete a rate-of-return calculation cast a shadow of great uncertainty when it comes to comparing educational investments with those made in other sectors, such as in agriculture, transportation, or public health. To reduce such uncertainties, there is a need for better treatment of what are now dismissed as indirect and non-monetary benefits of education, such as preparation for citizenship, for economic mobility, for receptivity to family planning, etc. Even the basic social and individual benefit of the opportunity to develop one's potential through education is not in the rate-of-return calculation.

Only through better measurement of the more elusive indirect and non-monetary benefits of education can there safely be wider use of rate-of-return results, especially in issues of inter-sector allocations.

- How can the indirect and non-monetary (external) benefits of education be identified, assessed and measured? How can such assessments be combined with the growing body of information on rates of return applying to the direct monetary benefits of education?

- How can the effects of imperfections in the labour market, such as rigidities in wages and salaries and time-lags in wage adjustments, be allowed for in the empirical data on earnings differentials used in rate-of-return studies? What are the prospects of constructing 'shadow prices' which would more reliably reflect the real productivity of personnel having various occupations and educational attainments?

- How can proper allowance be made for the effects of a large-scale expansion of education which might significantly change manpower supply-demand relationships and hence future earnings differentials?

- What guidelines and cautions should apply in using results of rate-of-return analyses in deciding on allocations within education, and on allocations to education?

B. Mutual adaptation of educational and economic systems

Until recently educational planners have been expected by most economists to proceed from the premise that educational planning should be geared to, and made consistent with, over-all economic development planning: that education should react to, but not shape economic goals. While achieving education-economic consistency is still an important criterion for judging educational programmes, there is a growing awareness that the processes of educational and economic goal-setting should be more nearly those of mutual adjustments.

A number of factors may account for the changing conception of the appropriate relationship between economic planning and educational planning. First, earlier economic development planning, with its preoccupation with the single criterion of growth in gross domestic product, is beginning to comprehend social development objectives such as distributive justice (reduction in income inequalities), the maximization of employment opportunities, and the correction of injustices or lack of opportunity of various minority groups. Education has a role to play in attaining these social objectives. Secondly, there is a growing acknowledgement that education confers important values that appear to defy translation into economic measures—as is perhaps implicit in the universally high 'social demand' for education. Finally, of course, education has become one of the largest enterprises in most nations, as measured by employment and budget; and, further, it comprehends all the interest groups which have a stake in national economic and social development. Taking all these factors into account, it is perhaps as proper for economic and employment targets to be selected in the light of educational needs as it is for educational objectives to be responsive to economic considerations.

The following three research clusters treat certain emergent needs in the mutual adaptation of educational and economic systems.

Cluster No. 3

Harmonizing the planning for manpower with the planning for education

A well-tested premise for shaping an economic development plan is to identify the economic comparative advantage a nation or region may have by virtue of special natural resource endowments, fortuitous geographic location, or other factors. There would also appear to be utility in extending this approach by asking what comparative advantage in manpower proficiencies, attitudes, and educational attainments a nation enjoys, or can expect to enjoy in the future, in the light of educational trends. Then, on the basis of these human assets, those patterns of economic activity best suited to the particular human comparative advantage would be developed. The Republic of China (Taiwan) and Sweden, to pick two examples at different stages of economic development, have experienced impressive economic growth. One way to help explain their performances is to suggest that by design or inadvertently these countries have found an economic 'mix' that is well geared to their manpower-economic structures.

- In achieving greater consistency or compatibility between employment structures and educational output (school completers by level and type of schooling), what potential exists for mutual adjustments wherein educational output both responds to economic needs and also influences choices among economic development alternatives? Can economic strategies be shaped by a country's own comparative advantage in manpower-education structures? What can be learned about mutual adjustments of economic and educational objectives by studying the experiences of countries or regions which have unusual educational-manpower distributions?

- How can rigidities and obstacles in the functioning of the labour market be removed to permit better use of specialized educational attainments? For example, do restrictive and arbitrary job entry requirements, including irrelevant formal education qualifications, impede an effective match between job-seekers and economic development needs? Are distortions and rigidities in wage or salary structure serious obstacles to the automatic adjustment processes of employment markets? If reform in these labour market institutions is needed, in what way can those concerned with educational planning and policy-making be of assistance?

Cluster No. 4

Improving occupational-educational linkages

A persistent problem facing educational planners and the policy-makers they serve is that of articulation from school to employment. This constitutes a problem in nearly all societies and for many levels of educational attainment and educational specialization, particularly for students completing or leaving second and third (or beyond) levels of education.

The looseness of the relationship between particular types and levels of education on the one hand and specific occupations on the other hand results from a fairly wide 'substitutability' of proficiencies and skills for particular occupations. Because of this looseness, some critics claim that occupation-education linkages need not be allowed for in educational planning. This is tantamount to saying that substitutability is 100 per cent, which literally would assert there are *no* regularities in the relationships between educational qualifications and specific job requirements, i.e. that an unskilled manual labourer could substitute for a physician! Clearly the actual situation lies somewhere between zero and 100 per cent substitutability. More research is needed to help planners understand the range of educational qualifications that will enable job holders to perform within a given occupation spectrum with reasonable competence. More information is also needed on what other factors, such as socio-economic position, attitudes, or experience, may have an effect upon this range.

- What minimal educational attainments by type and level are found empirically to be associated with effective performance in various occupations? Are existing classification schemes for occupations adequate to differentiate minimal educational qualifications, and if not, what new schema could help in this type of analysis? How do occupation-education coefficients vary from country to country or by stage of economic development?

- How non-specialized (i.e. general) can education be as a means of providing employment mobility and adaptability, without paying too heavy a price in terms of initial job entry and retention?

- What understanding of occupation-education linkages can be gained from large-scale sample surveys of the labour force that would present empirical data on what the under- and over-educated are doing in their jobs? Are under- or over-educated employees distinguishable from other employees in terms of competence, mobility, retrainability, morale, attitude, and interruptions in employment?

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- What specialized curricula might be designed to render early school-leaving less wasteful in labour market terms? What contributions to improving occupation-education linkages can be made through work-study 'sandwich' programmes, and through 'second chance' educational programmes expressly designed to rehabilitate early school-leavers?

Cluster No. 5

Confronting the problem of the educated unemployed

The spectacular expansion in the output of students from higher education and from secondary education in many developing countries during the last five years has in several instances been accompanied by alarming increases in the number of educated unemployed. In India, for example, the number of university-trained job-seekers who registered at official employment exchanges rose from 20,000 in 1953 to 186,000 in 1969. While a few new exchanges were opened during this period, the Union Minister of Education estimates that at least two-thirds of the increase reflects a real addition to the educated unemployed[1]. Professor Harbison[2] reports similar manpower surpluses in most Middle African countries, resulting in large part from economic growth of modern sectors not keeping pace with the expansion of higher education—an expansion which was more rapid than had been targetted in national development plans.

The term 'educated unemployed' too easily suggests some sort of causal relationship between the provision of additional education and the growth of unemployment. The fact is that with or without additional output from secondary and tertiary school levels, the supply side of the labour market in developing countries is expanding and will continue to do so throughout the 1970s as a result of demographic trends that are already history.[3] The problem is that economic development is often not keeping pace with demographic and social demand. In this respect the dilemma becomes that of *uneducated* unemployed versus *educated* unemployed, unless, of course, economic development strategies can be more effective in providing employment opportunities and the machinery for matching jobs to applicants.

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1. Speech of Dr. Rao, India's Union Minister of Education, to Society for International Development, New Delhi, 16 November, 1969.
2. F. Harbison, *Higher Education and Manpower in Africa, Old Premises and New Perspectives*, paper presented to Society for International Development, New Delhi, 14-17 November, 1969.
3. The population of working age in developing countries was growing at an annual rate of 2.3 per cent in 1968, and the rate will increase in the 1970s to nearly 2.7 per cent (United Nations, *World Economic Survey, 1968*, New York, 1969).

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In many developing countries education is viewed as a one-way ticket into high-status urban (usually government service) employment. Yet in early stages of development, the capacity of medium- and large-scale private enterprises to offer employment to secondary- and university-trained persons is generally quite limited. And the rapid expansion that characterized the recent growth of civil service employment in these countries is now having to slow down in view of fiscal realities. Thus the over-production of status-seeking job applicants can only lead to rising frustration.

Given appropriate organization and motivation, there would appear to be important potential for manpower of middle and high educational attainment to contribute to national development by working in intermediate economic sectors (between subsistence activities and the small modern sectors). Such work would include rural transformation (see **Cluster No. 6**), the encouragement of modern small industry and service enterprises, the formation of production and marketing cooperatives, the improvement of public health and nutrition, the organization of self-help projects to improve the infrastructure of secondary roads, and small-scale public works. All these activities are labour-intensive, requiring only minimum, if any, capital. They also require relatively large cadres of middle- and upper-level leadership and management, and could thereby offer urgently needed solutions to the problem of the educated unemployed.

Yet the problems of organizing and motivating the educated unemployed into the mobilizations just described appear formidable—hence the need for research. No doubt some of the attitudes of the educated unemployed are culture-based, i.e., deeply ingrained in family-transmitted values that are not likely to yield easily to modification. The differences among cultures in what McClelland calls 'need for achievement'[1] provide an insight into how work orientations are and are not formed in the home. But it can at least be hypothesized that values embedded in the content and method of instruction in schools also have an influence on work orientations, on the willingness or unwillingness to become entrepreneurs, and on the relative status students accord various occupations.

Another line of inquiry needs to be pushed in view of the size of the existing and projected number of educated unemployed. This has been suggested in the earlier **Cluster No. 3**. The approach would be to look for those economic activities that appear to draw on the latent comparative advantage of the pool of educated unemployed. An example in 1969 was an exploration conducted in India of how to employ some of the surprisingly large number of engineers who were then either unemployed or underemployed. The feasibility of establishing computer programming services available to foreign as well as domestic users of electronic data processing systems was being explored by a major supplier of computer services and equipment. If feasible this programme would require, of course, the retraining of engineers to become proficient in the new data processing services.

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[1] David C. McClelland, *The Achieving Society*, Princeton, N.J., D. Van Nostrand Company, Inc., 1961.

- What influences do curriculum content and methods have upon student attitudes toward the world of work and occupational choice? Can changes in the curriculum modify attitudes, or are societal and family values so dominant that only multiple-approach programmes in the school, the community and the home can be effective?
- How can instruction in primary and secondary levels be made more relevant to the realities of development needs where the majority of those completing or leaving school will be self-employed or employed in the intermediate sectors that lie between subsistence and technologically modern industry or government service?
- Can useful case examples be identified and analyzed in which those economic activities were encouraged which would provide employment for groups with particular education-training qualifications? How did these programmes work out?
- To what extent is the problem of the educated unemployed traceable to actions or inactions of the educational system itself, and to what extent to malfunctioning of the economy and of the employment market? What combination of non-educational policies (such as removing distortions in wage structures) and educational policies might best alleviate the problem of the educated unemployed?

Cluster No. 6

Contributing to the rural transformation

The rural transformation refers to a comprehensive and inter-related set of changes that include not only increases in the productivity and output of agriculture and livestock, but also the emergence of differentiated economic activities such as food processing, storage, and marketing; the provision of agricultural credit; the organization of co-operatives; village and community development programmes to improve water supply, roads and sanitation;

services for supplying fertilizers, seed, and insecticides; distribution and repair services for implements and farm equipment, and many other changes that mark the shift from subsistence agriculture toward modern rural-urban activity.

The potential for the rural area's contribution to development has been dramatized by the 'Green Revolution'—the discovery and use of the new high-yield varieties of wheat, rice and corn—major basic foods in much of the developing world.

> 'The possibilities for doubling or even tripling production are based upon new high-yield varieties coupled with adequate supplies of water, fertilizer, pesticides and modern equipment. Overnight, the image of agriculture in the developing countries has changed from that of an economic backwater to that of a major potential contributor to overall development. . . . Traditional food-importing nations like the Philippines and Pakistan are becoming self-sufficient and have the prospect of becoming net food exporters.' [1]

Education ought to have some more instrumental role in contributing to rural transformation than it has generally been accorded. Certain occupations, like those of agricultural extension agent or research specialist, clearly require particular educational attainments and technical proficiencies.[2] However, in addition, the many employment opportunities in activities ancillary to agriculture also need to be filled by people with a good general education, supplemented by on-the-job or other specialized training appropriate to the wide variety of occupations found in these intermediate sectors.

It can be argued that education needs a breakthrough that will allow it to contribute to rural transformation in a manner corresponding to the impact that the Green Revolution is having on yields, or to the impact which improved and low-cost contraceptives are having on family planning. Perhaps the solution for education lies in some new combinations of instructional content and method and new combinations of in-school and out-of-school activities.

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[1] Clifton R. Wharton, Jr., 'The Green Revolution: Cornucopia or Pandora's Box?', *Foreign Affairs*, April 1969, p. 464.

[2] The need for indigenous expertise is emphasized by Wharton:
'...Farmers must learn new farming skills and expertise of a higher order than was needed in traditional methods of cultivation. The new agronomic requirements are quite different as regards planting dates and planting depths; fertilizer rates and timing; insecticide, pesticide and fungicide applications; watering and many others. Unless appropriate extension measures are taken to educate farmers with respect to these new farming complexities, the higher yields will not be obtained.

Much will depend upon whether or not the necessary manpower is trained in each country to provide a continuing human resource which can produce a constant stream of new technology. The manpower trained in the Rockefeller Foundation's Mexican program has always been a greater contribution, in my view, than the new varieties. Successful adoption should not deflect attention from the importance and role of continuous agricultural research. The development of indigenous competence to engage in agricultural research is critical and becomes even more critical as the new varieties are adopted. The target should be not *a* new technology but ever-new technology, and this requires skilled manpower.' *Ibid.*, pp. 473-474.

- What is the most rapid feasible means of establishing locally the specialized education and research competence that will permit a nation or region to participate in the Green Revolution? What combination of national policies and incentives together with foreign assistance are required?

- What modifications in curriculum content offered in rural areas should be made to reflect the new rural transformation potentials? How can mathematics, reading, and science content in primary and secondary schools be made relevant to local rural conditions, e.g. tropical agriculture, or fishing, etc.? Should instructional materials and syllabi for urban as well as for rural areas be modified, lest education in rural areas be viewed as somehow inferior?

- What patterns of work experience can be combined with formal schooling to increase the relevance of instruction to development and improve the transition from school to employment in some aspect of the rural transformation? Can youth clubs or other institutions be of assistance in organizing the arrangements for work-study?

- Would local modifications in the school calendar to adapt to the rhythm of agricultural production be of assistance to work-study arrangements?

- How can teacher training be changed so as to prepare teachers to understand and communicate the development potentials of the rural transformation?

C. Internal effectiveness of educational systems

Turning now to the school system itself, several emergent issues deserve the attention of research personnel if education is to improve in efficiency and in meeting the variety and dynamics of the tasks it is called upon to perform.

Cluster No. 7

Reducing wastage from drop-outs and repeaters

Evidence of a common malfunctioning in the school systems of most developing countries continues to accumulate in statistics on the number of drop-outs and repeaters at every cycle of education. While this is by no means a new problem, there is a growing realization that ever-wider access to education may no longer attract support unless school systems can demonstrate better performance in student retention and completions.

Until recently most of the attention given to student admission, retention and completion was only in terms of studies of attrition rates themselves and of the development of models of student flows. Now there is interest in extending these inquiries into analyses of causes of wastage, together with the educational, social and economic consequences of various patterns of system performance with respect to retention and completions.

The phenomenon of a large fraction of students repeating one or more years or grades of schooling raises fundamental issues of pedagogical practice and philosophy. Repeater rates will naturally be higher in school systems which enforce minimum achievements standards for passage to the next level than in school systems which practise 'automatic promotion'. Under either system there is a need to help every student realize his potential and achieve a performance necessary for participating in society. Whether the multiple purposes of education, both individual and societal, are better met under rules that result in high or low repetition rates, and what curriculum or criteria changes and ancillary educational services should respond to individual student differences, are all questions deserving further inquiry. In many respects, the problem of repetition has to be considered in conjunction with the problem of further individualizing education, which is treated in **Cluster No. 9.**

The need is for a larger body of theory and understanding of the influences of educational policies and processes on student flows, attainments, and attitudes. This will no doubt require longitudinal (cohort) studies of student flows during schooling and into the labour force, under systematically varied practices that might influence retention and completion. These inquiries will, of course, benefit greatly from advances in the art of educational evaluation (**Cluster No. 8**).

- What are the various ways of measuring student wastage and repetition, and what statistical methods are needed to provide a comprehensive description of school system performance in retention and completions?

- What are the actual and potential causes of wastage and repetition?

What influences do social, environmental and economic factors have on wastage? What can be learned from studies of attitudinal and achievement orientations and early socialization patterns of cultures and societies?

- What influence do the following school and community variables have on drop-out and retention rates:
    - curriculum
    - teaching method
    - student achievement standards (retention, promotion rules)
    - pupil age
    - language
    - presence or absence of remedial teaching
    - media
    - school calendar
    - daily schedule
    - class size
    - homogeneity/heterogeneity of student populations
    - teacher preparation, sex, attitude
    - participation in early childhood (pre-kindergarten) programmes?

  Would it be useful to undertake experiments and pilot programmes which would systematically vary each of the potentially influential variables to determine empirical effects on system performance?

- Do special groups, such as ethnic or linguistic enclaves or sub-culture and minority groups, have special wastage or repetition problems that require special solutions?

- What total costs and effectiveness are associated with alternative approaches such as those of automatic pass with remedial or compensatory assistance to low achievers, versus minimal promotion standards with repetition or some other kind of remediation? What are the psychological as well as economic costs of the several alternatives?

- Can retention patterns in private education and non-formal schooling shed light on wastage in public school systems?

- Does uninformed student or parent choice of educational programme contribute to wastage? If so, what avenues of improvement appear feasible? Is stepped-up and strengthened student counselling effective in correcting these deficiencies? Are there cases which demonstrate the utility or ineffectiveness of strong counselling programmes? Can students' and parents' perceptions of incentives be modified to bring more realism into systems dedicated to individual choice?

Cluster No. 8

Strengthening educational evaluation

Viewing educational activities as systems inevitably requires attention to *evaluation* at all stages of the process. In the design of new educational efforts, evaluation helps to select from among several proposed solutions the alternative best meeting feasibility and effectiveness-cost criteria. Later one evaluates current performance of a system in a variety of respects to see how well it is meeting the objectives laid out for it, and to discover how to make it function better. And post-project evaluation is undertaken to get the facts on student performance with respect to evaluation criteria and to learn lessons on how to improve future projects. In short, evaluation takes many forms, but basically is carried out to make the system or sub-system perform more efficiently and effectively. Thus it involves the benefit-cost approach in the broadest sense—something that has been largely absent from traditional educational administration.

While evaluation techniques in many aspects of education need to be improved, the following discussion focusses on only a part of the evaluation spectrum, namely on those procedures for assessing, through observations, tests, or other replicable means, the degree to which individuals, groups, classes and schools are meeting education's multiple objectives, including the increasingly pluralistic objectives discussed in **Cluster No. 1**.

If education is to be responsive to the needs of all students, evaluation procedures must be finely tuned. No longer is the merit of an educational system or sub-system to be found solely in the degree to which it produces the 'educated man' as defined by absolute criteria; now the merit of any educational activity is more to be defined as the degree to which terminal or post-education proficiency is greater than initial or pre-education proficiency. Measuring the net change or increment in student performance places a very demanding requirement on evaluation procedures.

To judge educational systems and sub-systems adequately, the changes between pre- and post-measurements need to be examined from the points of view of the individual, of the classroom, of special groups (defined, for example, linguistically or in socio-economic terms), or of all members of a school or larger aggregation.

It is true that examinations of various kinds have long been used in education. But these are generally administered only at the end of an educational cycle, thus not permitting a measure of the increment of attainment. The use of a post-measurement only does indeed detect individual performance differences or achievement status, but these variations do not necessarily indicate actual changes for a given group over a period of time. And when examinations have been administered as pre-tests, they have generally been used to screen for admission or non-admission, with cutting scores below which admission is denied. Furthermore, traditional uses of examinations have proceeded generally from an absolutist concept of the educated man, more than from the concept of using tests to diagnose needs and to prescribe appropriate educational sequences. The state of the art in examinations is well described in the *World Yearbook of Education, 1969*.[1] It shows that there is now operating an underlying trend for examinations (and by implication for tests and measurements) to become less instruments for selection and more instruments for feedback and diagnosis of highly differentiated objectives.

But the inventory of ways of measuring cognitive achievement, social behaviour, self-awareness, and other goals of education is not adequate for assessing increments of attainment or for applying the systems view of education.

- What is the present state of knowledge in characterizing and measuring educational outcomes relative to an expanding and more pluralistic set of educational objectives? What new evaluation procedures (observations, tests, measurements) need to be developed to fill gaps in the inventory of assessment procedures? Are there measures that have been developed and validated that are under-used in view of the increasing interest in determining increments of educational progress of individuals or groups?

- Where should the priority for further development of evaluation procedures lie—should it be in the measurement of problem-solving skills, generalizing skills, self-awareness and other behaviours that contribute to educability, instead of in the measurement of mastery of facts, concepts, and principles?

- What modifications do evaluation procedures need when they are transferred from one culture to another?

- How can examination systems, which so often control and stream student flows and which influence the content of educational levels below the examination, be reformed to encourage development-oriented teaching and learning?

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[1] Bereday and Lauwerys, 'Examinations', *The World Yearbook of Education, 1969*, London, Evans Brothers Ltd., 1969.

- What team-work among educators, planners, educational measurement personnel and other behavioural scientists will be necessary to extend and enrich the state of the art in educational evaluation? How is this collaboration to be brought about?

- With what procedures can student potential be studied so as to improve individualized groupings and guidance practices—i.e., to select in, not to select out?

Cluster No. 9
Individualizing instruction

If mass education of an increasingly diversified student clientèle is to succeed, it must be accompanied by new approaches to individualizing the process. The earlier élitist philosophy of education said in effect that schools provided a screening-out process, not only selecting the few who would accede to high-status positions, but also condemning the majority who dropped out (or were pushed out) to permanent second-class status. An observer from afar might conclude therefore that a purpose of a school system of this type was more to produce *failures* than it was to prepare the minority of students for the *success* of further schooling. A more current view is that a purpose of schooling is to produce a maximum of successes, albeit highly differentiated successes.

The success philosophy, however, requires a diversification of instructional offerings and attention to the entering or starting competences and abilities of students, which are likely to vary not only from the phenomenon of the normal distribution of individual differences, but also from heterogeneity of linguistic, cultural, ethnic, geographical, or other origin.

Accordingly, there is an increasing requirement for schools to help all students become self-renewing (i.e., educable, not just educated) members of society. This requirement is having the effect of shifting the emphasis from knowledge acquisition to problem-solving capabilities. It is also putting more stress on the need to individualize challenges to students as much as possible.

- What research and development will contribute further to individualizing the learning process to fit the wide range of student abilities? How can instructional systems capitalize more fully on students' capacity for self-instruction or on capacity for mutual education among students?

- Since the dynamics of change require that man become more self-renewing, what kinds of instructional systems contribute most to individual capacity for continuing self-learning? What systems contribute most to self-esteem? To what extent should traditional knowledge-oriented units of instruction give way to problem-solving approaches, heuristics, and independent study?

- How can the logistics of educational systems—their structure, grade levels, timetables, communication channels, examinations, and administrative processes—become more adaptable to the widely varying needs of individual students? How can the modern technologies of communications systems and computers contribute to this needed adaptation?

- How can existing schools and universities be opened up to serve clientèles other than just the academic-bound? What changes in pedagogical content and method should characterize such institutions?

- Are self-service education and mutual education (student-to-student) viable concepts to be employed more widely in educational institutions? What impact, if any, should these approaches have on standard school operations for school-age youth?

- Does educational technology, such as might be available in multi-media centres, have a particular role to play in the institution that serves a wide variety of needs? If so, what initial steps can school leaders take where extreme budget austerity must prevail?

Cluster No. 10

Establishing the pre-conditions for continuing innovation

In *The World Educational Crisis* [1] Philip H. Coombs develops the thesis that the educational strategy of the future must be a strategy of innovation, aimed at effecting a great variety of changes in educational systems, in order to help them (a) adapt to the changing needs of their students and their society, and (b) increase the efficiency and effectiveness with which they employ their limited resources. But educational institutions have been notoriously slow in adopting innovations. Research that can identify factors inhibiting or encouraging innovation, particularly in developing countries, will be of great utility.

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[1] Philip H. Coombs, *The World Educational Crisis: A Systems Analysis*, New York, London, Toronto, Oxford University Press, 1968.

It is beginning to be clear that many of the obstacles to more rapid adoption of educational innovations in developing countries are institutionalized patterns, some borrowed from developed countries, that may have outlived their usefulness. For example, the examination system for controlling admission, retention and graduation acts as a deterrent to progress in many systems, yet the various interests who gain security from existing examination systems stubbornly prevent their reform. Similarly, patterns of teacher certification are often not relevant to today's and tomorrow's needs in many countries, but again inertia is great.

- How might educational systems or institutions be organized to make innovational improvements a way of life? How can educational institutions acquire a capability of critical self-scrunity and research and development to overcome the shortcomings thereby identified?
- What processes of educational planning and management have been the most successful in establishing a favourable climate for educational innovation? What communication network and diffusion practices contribute to adaptability? What lessons in adaptation learned in other sectors have utility in education?
- What information flows and mechanisms for self-analysis and self-evaluation of decision-making are essential to strengthening the rate of innovation and self-renewal of educational institutions?
- How can teacher organizations be oriented toward, and be given a stake in, a continuing process of evaluation and innovation?

D. Resources employed in education

Cluster No. 11

Seeking supplementary sources of educational finance

Educational systems throughout the world, in developed and developing countries alike, are pressing hard against the financial limits of resources available to them. Demands being placed on education continue to grow faster than population or gross national product. On the input side—the human and material resources available to education—there seems to be a sort of iron law operating in which unit costs of education inevitably grow faster than other cost indices. This phenomenon results primarily from the labour-intensive nature of education and the fact that all qualitative improvements in teaching seem to result in cost indices for education rising more steeply than the cost of living. Thus educational finance is caught in an income-cost squeeze of a classical economic type.

- What supplemental sources of revenue for supporting education may be available to developing countries, such as local resources to add to central government contributions, or the opposite? What are the trends in patterns of revenues by sources? What are the advantages and disadvantages of adopting earmarked taxes in education, such as the employment taxes in several Latin American countries which support occupational training centres?

- What is the feasibility of drawing on new or latent sources of support such as volunteer efforts, student fees, employer or other private contributions, etc.? What public policies might stimulate matching contributions from such sources? How can substitution of new for old revenues be avoided, so as to realize genuine additions to educational finance?

- How can additionality[1] be estimated for alternative patterns of educational finance? Is there a 'norm', or expected, effort in educational finance associated with a country's wealth and stage of development? Would positive variations above this norm reliably reveal additionality?

- What are the social and political implications of alternative or supplemental methods of educational finance? Since financing is intimately associated with participation, what new socio-economic groups might become involved in education under alternative financing arrangements?

- What are the long-term (more than five years) implications of alternative financing practices? Is debt service going to become a severe burden on the next generation in developing countries? What educational financing decisions are appropriate in the light of inflation trends?

- Are student loan schemes (for university or secondary students) an effective way to help finance education? What effect do loan schemes have on the equity problem of equal access to education?

- What are the prospects for and implications of large-scale external loans to local educational systems?

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[1] i.e. net addition, not a substitute for or reduction in other efforts.

- What are the implications of a potential decline in normal sources of educational finance resulting from the rising requirements of competing social services or from disenchantment with the economic contributions realized from past investments in education?

Cluster No. 12

Improving the supply and use of the teaching force

Almost everyone agrees that, second only to the student, the teacher is the heart of the educational process and the main determinant of the quality and effectiveness of its results. The supply of good teachers, it is also said, is the main bottleneck to improvement. Yet in many countries teacher-training institutions are seldom in the vanguard of developing and applying innovative approaches responsive to today's and tomorrow's needs.

Available and potentially available teacher resources can be used in various ways. Most deployments of teachers in educational systems are highly traditional. Further, considering the long history of the teaching profession, occupational roles within teaching show surprisingly little differentiation. In other professions, such as engineering and medicine, a generally greater degree of specialization has evolved, thus adding to human productivity and to the opportunity for self-expression. Differentiation has also been a means of overcoming or preventing manpower shortages by recruiting into a profession people with a range of qualifications and proficiencies.

- How can in-service training and retraining be made accessible and motivating to the majority of existing teaching forces? Can mass media such as educational television help in this process?

- How can teacher training and retraining impart a sense of social commitment as well as professional self-confidence and growth to teachers? How can teachers become committed to educational innovation? Do teacher selection practices encourage or discourage innovation and social commitment?

- How can needed educational reform be achieved without requiring excessive investment in retraining of teachers? What role can be played by the provision of self-teaching manuals and syllabi to teachers? What role can mass media play?

- What is the effectiveness of alternative geographical locations of teacher-training institutions, taking into account needs for rural development and for growth and upgrading of fringe urban areas?

- How might the existing teacher force be better deployed to improve utilization? What geographical distributions would increase over-all educational effectiveness? What is the effect of assigning teachers of urban origin to rural schools, and *vice versa*? What incentives might be needed to encourage deployments that yield higher system effectiveness?

- How can teaching duties and rewards be differentiated to permit more specialization and thus more career ladders and opportunities for recruiting a wider range of talents into the teaching profession? What combinations of para-professionals and teachers can increase the overall effectiveness of the teaching force? How will this effectiveness be measured?

- What are the attitudes of students toward pursuing a career in the teaching profession? How do student expectations regarding teaching compare with teachers' own views of their work?

- What effect do formal or *de facto* hierarchies in the teaching force and in the teaching-administering force have upon teaching effectiveness and adaptability? Can attitudes toward such hierarchies be modified to improve effectiveness?

E. Lifelong learning

Lifelong, permanent education is an emerging concept to which Unesco has been devoting increasing attention. P. Lengrand, in an article in the *Unesco Chronicle*, says the concept includes 'the continuation of the educational process, without interruption, to fulfil the aspirations and develop the potentialities of each individual human being, and to meet the ever more pressing demands of a world in transformation. ... The whole purpose of lifelong education is to make individuals aware of the world around them, to launch them into the stream of life.' [1]

The concept calls for designing educational opportunities that will provide every man with avenues for his own advancement and self-realization throughout his lifetime—avenues which are appropriate for the whole spectrum of prior educational and experiential attainments. This is of course a very big order—an objective towards which to aim if not to reach. And, as Malcolm Adiseshiah, the Deputy Director-General of Unesco, states, '[lifelong education's] implication, diffusion and application in all of social and individual life have yet to be worked out.'[1]

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[1] P. Lengrand, 'Perspectives for Lifelong Education', *Unesco Chronicle,* July-August, 1969, pages 252 and 254.

While many research inquiries will be needed to clarify how the doctrine of lifelong learning is to be put into practice, the following cluster of research issues focuses on only a portion of lifelong education, namely organized out-of-school education and training activities. Workshop participants were thus not yet prepared to formulate issues on as broad a canvas as lifelong education. To do so would have involved comprehending in-school as well as out-of-school arrangements for self-renewal and also communications media such as the press, radio and television and their potential for contributing to lifelong education in non-institutionalized reception situations.

Cluster No. 13

Mapping organized out-of-school education

Organized out-of-school education and training can offer people of all ages opportunities for self-improvement in general education, in skill training or retraining, and in citizenship and cultural pursuits. General education can provide both first-chance education (literacy training) and second-chance education for those who had to drop out or interrupt their preparation. Such opportunities must be offered flexibly on part-time and night-school bases and during slack periods in the agricultural cycle to allow for work-study arrangements.

Skill-training institutions have contributed considerably to helping people become effective members of the work force in both urban and rural settings. In several Latin American countries distinctive organizations for skill training in industry and commerce train thousands in courses ranging from a few weeks' to several months' duration. Training is offered on both in-service and pre-employment bases. Most of the training organizations are autonomous public corporations financed by a tax on the payrolls of employing establishments. And in rural settings, the farmer training organizations operating in East Pakistan,[2] India and East Africa, by offering courses as short as one week, have helped greatly to improve the productivity of small-scale farmers.

1. M. S. Adiseshiah, 'Unesco and Development', Monthly Economic Seminars, Paris, Unesco, 1969 (GG/MES/WS/7).
2. For example, the Rural Academy in Comilla, East Pakistan.

Citizenship training and cultural pursuits are often organized under community development programmes. Youth clubs in East Africa have harnessed important human energies for development purposes.

In most countries at early stages of development, out-of-school education has thus far been under-developed. In-school education has its own ministry to watch over it and fight its battles, but out-of-school education has been everybody's business and therefore nobody's. There is a need to develop a better division of labour and better integration between the two.

- What kinds of organized out-of-school education exist in various developing countries? In view of the variety of auspices under which it is offered, how could comprehensive inventories be made to identify and assess such activities? Can typologies or classification schemes be developed which will be useful in such matters as exploring the possibilities of transfer of a pattern effective in one country to another where an apparent need exists?

- Can the aims of out-of-school and in-school education systems be made more nearly compatible and mutually reinforcing? Can content and teaching methods used in conventional school systems benefit from the most effective practices employed in training institutions, or *vice versa*?

- What unique contributions can organized out-of-school education make to the achievement of the goals of lifelong education? If what will be required are centres where large numbers of people have opportunities for self-advancement and self-renewal, what division of labour can be worked out between the regular school system and specialized training institutions?

- Can technology in the form of communications media, programmed instruction, and audio-visual aids play a particularly important role in allowing out-of-school education to meet its potential? Is the concept of multi-media, i.e. the reinforcing effects of combining several media, important?

- In what ways can governmental policy enhance the performance of education outside the formal system to meet generally agreed-upon national development objectives? How should financing of out-of-school education be shared between public and private sources? How much of the cost should be borne by the learner?

- Under what circumstances (culture, policy, economic incentive etc.) has motivation for self-help learning been greatest? Can these circumstances be replicated in new environments?

- What kinds of educative influences can be devised and put into practice (or strengthened where in existence) to continue learning processes begun within the formal system of education?

- What is the educational effectiveness of the national youth service programmes now functioning in many developing countries? What effectiveness or benefits would be associated with further investments in these programmes, and how might the effectiveness and cost of such projects compare with alternative investments in the conventional school system?

- What special education and training should be available so that women and girls can make a greater contribution to development?

- How can the pattern of successful rural or industrial training organizations found in some developing countries (e.g. East Pakistan's Rural Academy or Colombia's SENA) be transferred to other countries where needs exist?

- How should the rational planning of out-of-school education be approached? What are the various ways to organize such planning and to link it with other planning for education and economic development; and with specific development objectives?

F. Governance, planning and management of education

As used here, the term 'governance' refers to the processes by which educational policies are considered and adopted, and the means for conferring upon an administration or other executive agency the authority for planning and executing such policies. Governance, therefore, is a shorthand expression for legitimizing authority in education. 'Planning is the process of preparing a set of decisions for action in the future.'[1] As such it is a part of 'management' and 'administration', which are used as roughly interchangeable terms to describe the execution or application of policies established through some pattern of governance.

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[1] C. Arnold Anderson and Mary Jean Bowman, 'Theoretical Considerations in Educational Planning', in Don Adams (editor), *Educational Planning*, Syracuse University Press, 1964, p. 9.

Cluster No. 14

Widening participation in educational governance

In the increasingly universal questioning, protest, and sometimes rebellion by some members of the educational community, particularly students and younger faculty members, we see a drive toward widening participation in the governance of educational institutions. This problem extends from the individual school to entire systems of education. The several parties interested in the educational enterprise—students, teachers, administrators, policy-makers, employers, community members supporting educational institutions,—are all seeking new patterns by which they can participate in, or influence, educational policies affecting themselves.

- What groups have legitimate interests in each type of educational institution, sub-system or system? How do these groups exert influence in educational governance at present? How should such groups participate? How should educational administrators and planners relate to such groups? Does the administrator-planner link with them only through an elected or appointed official, or does he have an obligation to seek more direct readings of the views of interested groups?

- How do various educational interests perceive and define alternative educational goals? Do disparities exist among the perceptions of educational needs held by such interests as (i) national planners (ii) educational planners (iii) educational policy-makers (iv) heads of educational institutions (v) other educational administrative personnel, (vi) teachers (vii) non-professional educational personnel (viii) students (ix) parents of students (x) employers (xi) other interest groups?

- What patterns of participation (defined as various ways of exercising influence) in educational governance are feasible in various political environments? What degrees of influence can be exerted within each pattern? (Degrees of influence may range through many stages, from one-way communication from the authority to the group desiring participation, all the way to full collaboration among committee members having equal influence).

- How can new participants in educational governance—for example, students—be made to acquire responsibility and accountability commensurate with their influence? Is it possible to design procedures in which gradations in participation are accompanied by corresponding gradations in accountability and responsibility?
- How is the need for wider participation in educational governance by some interests of lay background to be reconciled with a parallel trend for educational issues to become more complex and technical?
- Does governance as practised in sectors other than education offer any guide as to how participation could be practised in education?

Cluster No. 15
Advancing educational planning and management

Much educational planning to date has been primarily a statistical exercise of setting and costing educational targets, often based on inadequate and unreliable data and questionable assumptions. As decision-makers and policymakers place increased reliance on planning to help illuminate the choices that must be made and the consequences likely to flow from alternative choices, planners and researchers have a responsibility to develop and use the strongest tools that can be found.

If education is to play a more instrumental role in social and economic development, the machinery for planning and implementing programmes of planned change must be strengthened. Neglected key parts of this machinery are the selection of instructional systems most likely to yield desired learning increments between pre- and post-education assessments. And, as was discussed in **Cluster No. 8**, without feedback obtained through evaluations, the planning and management processes of goal-setting, implementation and self-correction will wander wastefully.

In other sectors and now increasingly in education, new and powerful methodologies of planning are being developed to help private institutions and public agencies to achieve their institutional purposes. These approaches include systems analysis, operations analysis, benefit-cost studies, programme budgeting, critical path scheduling, simulation and gaming, and decision analysis. There exists a considerable potential in educational planning for the application of these approaches and for the development of other planning concepts and tools. More powerful and detailed projection and costing techniques are needed.

It can be expected that education activities will need to draw increasingly on management teams and task forces composed of specialists who are proficient in the several planning and analytical techniques important to the field of advanced management practice. These arrangements perforce need to be more flexible than traditional hierarchical organization structures.

- How can educational administrators equip themselves to deal with the new dimensions of planning associated with widened participation and more pluralistic objectives? How can they acquire training in (a) 'teasing out' implicit objectives of education and (b) using survey research approaches for opinion and attitude measurement?
- What new patterns of organizational structure are appropriate for modern educational administration? What is the proper use of task-force styles of management? How can potential administrators best be trained or retrained?
- How can national and regional educational plans and targets be disaggregated into specific practicable programmes and projects at the local level? How is this disaggregation adjusted to varying degrees of centralized and decentralized control in defined educational systems?
- How can micro-planning for individual educational institutions (the programming of resource inputs such as staff, facilities, books, and equipment) be made compatible with larger-scale educational planning?
- To what degree can personnel in developing countries apply advanced analytical models, systems analysis, and programme budgeting at various levels of educational planning?
- What minimal educational statistical procedures and data should be associated with each stage of educational planning and development?
- What factors and qualities of planning have led to relative success or failure of planning, defined as the degree to which planning contributed to decisions and guided the implementation of successful educational programmes? Can historical case studies of educational efforts shed light on planning potentials and constraints and on effectiveness of various approaches?

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25/3, B. C. Road

3. Comparison of research needs, 1970 and 1965

As is mentioned in the preface to this report, the participants in the Workshop sought to map some of the new research needs that have emerged since the publication of the IIEP's *Inventory* in 1965. In this chapter, instead of presenting the more conventional report summary, five observations are made on how the concerns of educational planning appear to have shifted or widened during the last five years. The bases for the observations are content analyses —admittedly subjective—of the research priorities listed at the two dates.

Not surprisingly, the research priorities for 1970 and 1965 reveal many common themes: how to make educational expansion more rational; how to strengthen educational efficiency through studies of the external and internal economics of education; how to strenthen educational financing; how the supply and quality of teachers might be improved; how to deal with the problem of the educated unemployed. Significant progress has been or is being made on several of the projects identified in the 1965 inventory, particularly those of analyzing the potential of new media in education, of developing and disseminating improved methodologies of cost analysis, of preparation of country case studies in educational planning, of improvement of manpower planning, and others.

The following five observations, however, deal, not with the topics common to the two years, but rather with what can be inferred about new dimensions in the state of the art of educational planning.

Observation No. 1 The current agenda of research needs in educational planning includes a considerable emphasis on analyzing and harmonizing educational objectives and societal objectives as a worthwhile field for research inquiry. Of interest are degrees of congruity between educational and societal objectives; how objectives are articulated; how they are selected or weighted (since conflicts often exist among them); how they are made operational by being translated into programmes, courses, or institutions; and how good or poor a match exists between officially stated aims and the *de facto* aims that can be inferred empirically from the way money is spent and from the behaviour of schools and other institutions of society.

In 1965 much of the preoccupation of educational planning was on how to meet the tremendous pressures for expansion. These pressures, and the responses of those in the educational community to these pressures, were for a linear expansion—one which did not contemplate substantial changes in the content, method, structure, or goals of education. Given that preoccupation, it is not surprising that the 1965 agenda gave relatively little attention to research on educational objectives, now increasingly pluralistic and often competitive.

Observation No. 2 At several points in these proceedings there is a view of the education sector as that of an equal partner among key interests that help shape national development policy. For example, section **B** of the previous chapter proposes research on *mutual* adjustments of economic and educational objectives. The view that manpower and education considerations should influence development policy has evolved from an earlier predisposition to view manpower and education as reacting resources that respond to other societal needs, for example those for economic development.

If the current reading that education enjoys and merits such parity and mutuality in over-all development strategy is correct, important implications for planning and research follow. Several of these are touched on in the preceding chapter; for example, in seeking solutions to inconsistencies between educational outputs and employment opportunities, imperfections in economic development progress or in the labour market deserve as much attention as do anomalies in educational flows and choices.

Observation No. 3 Perhaps the most significant difference between the current statement of research needs and that of 1965 is the recognition that educational planning must be brought inside the educational system, helping to clarify and weigh objectives, to design and implement new teaching-learning sub-systems, to improve internal efficiency, and to evaluate system, group and individual performance. The logistics, flows, structures, and external articulations of education with which educational planning has heretofore been concerned are still necessary to the practice of planning, but they have been found to be not sufficient. Planning for core educational processes has the effect of joining 'planning research' more nearly with 'pedagogical research'.

The twenty-five projects outlined in the 1965 inventory contained both broad topics (e.g. How Much Should a Nation Spend on Education?) and focused topics (e.g. The Village School Teacher and Rural Development, Strengthening Educational Planning Through External Assistance). But the authors of the

1965 inventory delimited their search for research needs in educational planning by excluding investigations of the learning process. This delimitation was adopted not because central learning processes were unimportant, but rather because it was felt that educational planning as it was evolving at that time could contribute most by treating other issues, generally more macro than micro, in the educational scene.

Clearly the Workshop participants believe that planning activities must now extend into micro-levels of educational policy and decision-making. Further, participants feel that those in educational planning cannot remain aloof from such key questions as what improvement in performance or achievement should be expected for particular types of students, and what combination of educational resources is most likely to yield those desired learning gains.

Given the current interest in internal educational processes, it could be expected that assessment and evaluation would receive attention they were not accorded five years ago. In part, too, this comes from interest in more pluralistic and more explicit educational aims for individuals, institutions, sub-systems and systems. In part also, the interest in assessment and evaluation comes from the growing use of *results-oriented* management in education, where measurable educational outcomes must be demonstrated in order to justify continuing expenditures. The general state of the art in management and administration has advanced in the last five years, with the initial adoptions of programme budgeting, cost-benefit analysis, and systems analysis. All these approaches depend on assessment and evaluation procedures.

Observation No. 4 While educational innovation was mentioned in the 1965 inventory, it could not be clear then how urgent new solutions would become if the 'world educational crisis' is to be dealt with. Accordingly, this report has given added emphasis to research that would help school systems to institutionalize innovation and to become self-renewing and adaptable systems.

Observation No. 5 Present in this report but not in the 1965 publication is a concern for research on *participation* in educational governance—participation by the many interests who have a stake in the educational enterprise. The search for means by which each party at interest may exert appropriate influence on matters affecting him deserves attention from the research community.

It seems probable that part of the almost universal questioning of existing patterns of educational governance has its source in the inertia of educational systems—in their failure to adapt to changing needs and thereby to be relevant to the dynamics of development. In this respect research is needed to advance our understanding both of feasible patterns for participation and of means of institutionalizing innovation so that schools adapt and become relevant.

4. International co-operation in educational research and planning

A timely reappraisal of strategies and methods of foreign assistance and international co-operation in educational development is currently under way in many bi-lateral and multi-lateral agencies and in developing countries themselves. In the same sense that national and international efforts to bring about a linear expansion of education have led to maladjustments,[1] so also have the high expectations of the early 1960s with respect to the availability and effectiveness of external assistance been found somewhat optimistic. These sober second thoughts are moving the development community toward more selective efforts, with the realization that national self-help programmes are the primary determinants of progress. On the other hand, external assistance may be particularly helpful in encouraging needed innovation or reform.

Thus in international co-operation in research and planning a selective strategy seems to be in keeping with current trends. The Workshop devoted a session of its deliberations to sketching out some activities that would be relevant to such a strategy.

As a basis for developing useful forms of co-operation in research and planning, the Workshop participants accepted to varying degrees the following four premises:

1. The old strategy of linear expansion has outlived its usefulness.
2. The replacing strategy must give major emphasis to qualitative reforms promoting the kinds of educational change required to make education adaptable, relevant, efficient and effective.
3. Educational development must be better integrated, through a process of mutual adjustments, into the broader national development goals and plans.
4. Even though each nation must evolve its own educational development strategy to fit its own circumstances, there is need for an international strategy

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[1] See Coombs, Philip H., *op. cit.*

whose aim is to reinforce individual national strategies to the mutual benefit of all nations.

A selective international strategy consistent with the above is for multilateral agencies such as Unesco, the United Nations Development Programme, and the World Bank to consider giving priority to projects which involve significant innovation of a sort relevant to needs in several countries. This policy would suggest that applications for technical or financial assistance from these agencies be given preference for aid if the applicant proposes to depart from conventional practice and to blaze new trails, thus helping to test and apply new educational futures available to all. Such a policy would give needed incentives to break away from traditional patterns that have proved inadequate and obsolete. It might release the creative instincts of present international educational experts and attract new ones who are convinced that educational change is imperative and are anxious to participate in giving it impetus. Perhaps most important, it would give the weight of international approval and support to the whole notion of educational change and innovation, thereby fostering an atmosphere more conducive to change in all educational systems.

Within the foregoing broad proposal for international collaboration in educational innovation, the following twelve suggestions would appear to be helpful in the more specific objective of strengthening research processes.

Suggestion One

It is proposed that Unesco's Regional Centres provide operating bases for foreign scholars interested in carrying out field research on education in developing countries. At present there are too many cases in which graduate students or other scholars arrive initially in a developing country without adequate orientation or local support for getting access to, and co-operation from, the agencies and institutions that can provide the base for field work.

The practice of involving Unesco's Regional Centres would yield benefits to researchers, to the Centres, and to host countries. The researchers would have access to the wealth of information and contacts maintained by the Regional Centres. The Centres, in turn, would obtain the stimulus of exchanging ideas with creative research personnel. This could contribute to the research and training programme of the Centres themselves. Host countries would gain by having visiting scholars better oriented and doing work that is more likely to be relevant to national development needs.

Various proposals for trial co-operation between research units and Unesco Regional Centres have already been advanced by some leading Universities in developed countries. It is hoped that these pilot efforts can get under way and that an assessment of the effectiveness of the pattern can be made.

Suggestion Two

A suggestion was made that the Unesco Regional Centres might each prepare and maintain lists of high-priority development needs appropriate to countries in each region. These lists should be made available widely to young researchers so as to guide their selections of research topics. Such lists would serve to pave the way for the field work in developing countries for which needs exist and in which visiting scholars would be welcome, particularly if scholars make arrangements through the Regional Centres as suggested above.

Suggestion Three

When international research projects involving case studies or survey research relating to aspects of educational development are to be undertaken, they should be designed whenever possible to be open-ended so as to permit other researchers to co-operate. This would permit the results to be more accumulative and generalizable. This principle is already practised to a considerable extent in IIEP's case study and survey research. In this work, IIEP investigators share the proposed structure of the inquiry with other research organizations before the structure is made final. This permits the pooling of common structures or the addition of survey research items, thus leading to economies of scale in research, and to increased validity and utility.

Suggestion Four

It is proposed that agencies throughout the world engaged in research and development for education collaborate with the aim of gathering and reporting information on significant educational innovations. In other fields, such as medicine, physics or chemistry, scholars and researchers in the world community generally are informed within days of the discovery or demonstration of an important research or development breakthrough. In education, years may elapse before this kind of information is adequately gathered and authoritatively reported.

To illustrate this need, when it initiated its study of the use of new communication media in education, IIEP was unable to find any inventory of ongoing experiments in the use of instructional television. An innovation-reporting system, even an informal one, could improve the situation, cut down unnecessary duplication, and spread useful new knowledge more quickly and acurately. Certain national clearing-house systems, like the United States' Educational Resources Information Center System (ERICS) can feed into such an international effort.

Suggestion Five

A suggestion related to the previous one is the establishment of an international registry for on-going research. A number of people have suggested that the IIEP undertake this task. Thus far IIEP has not had the resources to establish this capability on a continuing basis. The work could be done by IIEP, or elsewhere in the Unesco family, but new financing would be necessary to initiate and maintain such a registry.

Suggestion Six

Bibliographies related to the various aspects of educational development and planning should be exchanged regularly among members of the community of institutions and individuals interested in educational advance. As an example, Syracuse University has compiled a comprehensive bibliography on educational planning which will be published in 1970. A more specialized bibliography on the economics of education is published and updated periodically by the University of London Institute of Education.

Suggestion Seven

Institutions active in educational research and training should step up the number of international personnel exchanges with a view to increasing the relevance of work going on and to improving co-ordination. Sabbatical leaves should be drawn on more frequently by offering professors from abroad the facilities and support for research and intellectual interchanges. Exchanges in which an academician changes places with an operating official might be of particular mutual benefit. The Unesco Regional Centres are interested in offering such arrangements, as is the IIEP. It is possible that some modest new financial support will have to be found to increase these flows of professional personnel interested in educational development.

Suggestion Eight

The research community continues to be handicapped by inadequacies in educational statistics. More comprehensive, more itemized, more up-to-date and reliable data would help greatly in the conduct of policy-oriented research. It is recognized that many obstacles stand in the way of agencies being able to do much better in information reporting than is being done now. It is possible, however, that a committee of people from the research community could offer their services to Unesco and other multilateral organizations to see if selective improvements helpful to the research community might be made.

Suggestion Nine

In several fields it has been found useful to constitute standing evaluation panels of professional people who can be called on to serve in evaluating projects, research programmes, or operations for which a research and development potential is thought to exist. Similarly there may be utility in organizing such a panel or panels for research operations in planning and development of education. Unesco National Commissions in certain countries could assist in developing such expert panels available for Unesco and other agencies to draw upon.

Suggestion Ten

Some Workshop participants suggested the preparation and distribution of a directory of grant-making institutions which may be interested in considering financial support for various kinds of research in international development education. This directory could include any geographical or subject-matter specialization of interest to each institution, together with the criteria it uses to judge the merit of proposals submitted to it.

Suggestion Eleven

Some Workshop participants suggested that some interested agency, perhaps the IIEP, undertake a yearly updating of research priorities in international development education, with if possible an indication of the amount of effort that is being devoted to the various items on the priority list. It was brought out that while the inventory of research needs published in 1965 had proved useful to producers and supporters of research, in the interval since 1965 there has been no clearing-house function of indicating which of the topics is attracting research attention and which is being neglected. The updating could be a valuable guide for the allocation of scarce research talent.

Suggestion Twelve

The observation was made that some qualified and interested research personnel from developing countries are under-utilized because they do not have knowledge of or access to financial support for research inquiries, nor adequate opportunities to establish collegial relationships with other researchers. Accordingly it was suggested that some kind of registry of interested scholars, and perhaps of institutions as well, be established so as to facilitate the participation of such scholars in research communications and projects. Researchers from developed countries should make a special effort to involve indigenous research personnel in studies relating to development phenomena.

Appendixes

A. Workshop participants

B. Institutions and individuals submitting inputs to Workshop

C. Titles of projects, 1965 *Inventory*

D. Basic discussion paper *by Philip H. Coombs*

Appendix A

List of participants

Argentina	*Mrs. Gilda L. de Romero Brest* Director, Centre for Research in Pedagogical Science, Torcuato Di Tella Institute, Buenos Aires
Australia	*Mr. J. N. Johnstone* Department of Education, Sydney, New South Wales
Belgium	*Mr. Flores Quiros* Assistant Professor, Institute for the Study of Developing Countries, Catholic University of Louvain
France	*Miss M. F. Desbruyères* Research Assistant, Educational Planning Section, Institut international de recherche et de formation en vue du développement harmonisé (IRFED), Paris
Hungary	*Mr. J. Timár* Director at the National Planning Office, Budapest
Netherlands	*Mr. N. de A. Santos* Netherlands Institute of Social Studies, The Hague
	Mr. van Gendt University of Amsterdam
Nigeria	*Dr. Archibald Callaway* Research Professor, Nigerian Institute of Social and Economic Research, University of Ibadan
Romania	*Dr. Petre Burloiu* Senior Lecturer at the Academy of Economic Studies, Bucarest
United Kingdom	*Miss M. Woodhall* (representing Mr. M. Blaug) Research Unit in the Economics of Education, University of London Institute of Education

United States of America	*Mrs. Maureen Webster* Center for Development Education, Syracuse University
	Mr. William M. Rideout Jr. Assistant Director, Stanford International Development Education Center (SIDEC), Stanford University
OECD	*Mr. Beresford Hayward* Head of Country Programmes for Educational Policy Planning
Unesco Headquarters	*Mrs. J. Hommey* and *Miss E. Vargas-Barón* Department of School and Higher Education
	Mr. L. Fernig, Director, and *Mr. G. Parkyn* Department of Advancement of Education
	Mr. C. Maté, Director, and *Mr. R. Médard* Department of Planning and Financing of Education
	Mr. A. Glinkine Director, Division of Social Sciences
Unesco Regional Centres	*Mr. R. Hennion,* Director, and *Mr. N. Bodart* Dakar
	Mr. A. El-Koussy, Director, and *Mr. J. Antoun* Beirut
	Mr. M. Mathur, Director New Delhi
	Mr. J. Torfs, Co-ordinator Santiago de Chile
Unesco Institute for Education, Hamburg	*Mr. Tetsuya Kobayashi,* Director
Unesco Field Expert	*Mr. S. N. Upadyay,* Nigeria
IIEP	*Mr. R. Poignant,* Director
	Mr. P. H. Coombs, Director of Research
	Mr. W. Platt, Consultant
	Mr. R. Lyons
	Professor V. Onushkin
	Mr. J. Hallak
	Mr. C. Tibi
	Mr. Ta Ngoc Châu
	Miss L. Arrigazzi
	Mr. N. Bennett

Appendix B

Institutions and individuals submitting inputs to Workshop

A. Represented at the Workshop

1 Center for Development Education, Syracuse University
2 Institute of Social Studies, The Hague
3 Institut international de recherche et de formation en vue du développement harmonisé, Paris
4 International Institute for Educational Planning, Paris
5 National Planning Office, Budapest[1]
6 Organisation for Economic Co-operation and Development, Paris: Committee for Scientific and Technical Personnel Selected Projects
7 Research Center in Sciences of Education, Buenos Aires
8 Research Unit in the Economics of Education, Institute of Education, University of London
9 Stanford International Development Education Center, School of Education, Stanford University
10 Unesco Asian Institute of Educational Planning and Administration, New Delhi
11 Unesco Institute for Education, Hamburg
12 Unesco Regional Office of Education, Santiago de Chile
13 Academie d'études économiques de Bucarest
14 Unesco Regional Centre for Educational Planning and Administration in the Arab countries, Beirut
15 Unesco Regional Centre for Educational Planning and Administration, Dakar
16 Educational Policy Research Center, Syracuse University

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[1] This office covers several research institutions in Hungary.

B. Other contributors

1 Center for Studies in Education and Development, Graduate School of Education, Harvard University
2 Professor A. H. Halsey, Department of Social and Administrative Studies, University of Oxford
3 Professor J. Vaizey, Brunel University
4 Stanford Research Institute
5 Mr. M. Hultin, International Bank for Reconstruction and Development
6 Mr. G. Hunter, Institute for Race Relations, London
7 Mr. R. Aron, Ecole pratique des hautes études, Paris
8 Mr. Abella Tan, School of Economics, University of the Philippines
9 Mr. E. Hasche and Mr. J. Salinas, Corporación de Fomento de la Producción de Chile
10 Mr. D. Tchupruvnov, Ministry of Higher and Specialized Education, USSR
11 Mr. E. Staley, Ford Foundation Consultant on Occupational Education, New Delhi
12 Comparative Education Center, University of Chicago
13 Mr. C. F. Carter, Vice-Chancellor, University of Lancester
14 Dr. Chanoch Rinott, The Hebrew University of Jerusalem
15 Mr. H. Peisert, Konstanz University
16 Professor A. Lewis, Columbia University
17 Mr. C. Timnermann Berheim, Universidad Nacional Autónomà de Nicaragua
18 Mr. A. Teixeira, Companhia Editoria Nàcional, Rio de Janeiro
19 Mr. Michael Kaser, St Anthony's College, Oxford
20 Mr. W. Schramm, Center for Communication Research, Stanford University
21 Mr. M. Hamza, Ministry of Social Affairs, Cairo
22 Higher Education Research Unit, London School of Economic and Political Science

Appendix C

Titles of research projects identified and described in the IIEP's *Inventory of Research Needs,* 1965

Educational Costs and Efficiency

Project 1 Raising Productivity and Reducing Costs in Established Educational Systems.
* Project 2 Development and Dissemination of Improved Methodologies of Educational Cost Analysis.
* Project 3 Educational Unit Costs in Developing Countries.
* Project 4 Applying Educational Innovations in Developing Countries.
Project 5 The Economic Aspects of Pilot Literacy Programmes.
Project 6 Comparison of Alternative Methods of Vocational Training.
Project 7 Economic Advantages of Multinational Co-operation in Education.

Financing Education

Project 8 Methods of Financing Education: a Comparison.
Project 9 How much Should a Nation Spend on Education?
Project 10 Financing the Expansion of Compulsory Education.

Teachers

Project 11 Balancing the Supply of and the Demand for Teachers.
Project 12 The Education of Women and their Place in the Teaching Profession.
Project 13 The Village School Teacher and Rural Development.

Manpower Aspects

* Project 14 Methods of Manpower Projections: A Critical Evaluation.
Project 15 The Educational Content of Middle-level Skills.

* Projects which appear to have attracted a considerable amount of research effort during the period between 1965 and 1969.

Project 16 Adapting Professional Training to the Needs of Developing Countries.
Project 17 Adjusting Popular Demand for Education to the Practical Needs of National Development.

The Planning Process

* Project 18 Country Case Studies.
Project 19 The Evolution of the Educational Planning Process.
* Project 20 Organization and Administration of Educational Planning.

International Aspects of Educational Planning

Project 21 Strengthening Educational Planning Through External Assistance.
Project 22 Improving the Effectiveness of External Aid by Educational Planning.
Project 23 Adapting Imported Educational Models.
Project 24 The Role of Expatriate Educational Personnel.
Project 25 Raising the Effectiveness of Study and Training Abroad.

Appendix D

Research for educational planning: basic discussion paper

Philip H. Coombs

These informal notes attempt to give perspective to some of the issues which the Workshop will consider and to provoke ideas for discussion. The views expressed are the author's own, not a statement of the Institute's position.

1. *The agenda*

The Workshop has three main tasks: *first,* to take stock of recent, current and planned future research by the Workshop participants and their respective organizations; *second,* to develop a select list of important research topics which warrant priority attention in the years ahead; and *third,* to identify specific ways to strengthen international co-operation in research on educational planning.

It is hoped that this exchange of ideas will benefit not only the participants and their institutions but other interested parties not in attendance. The suggestions for future research topics, for example, will be reflected in a revised IIEP Inventory of research needs in educational planning, which will be widely distributed. Suggestions on ways to improve international co-operation in research will be brought to the attention of Unesco and other appropriate organizations, in so far as the Institute cannot implement them itself. Additional means will be sought to disseminate other useful findings of the Workshop.

The Workshop will be devoted largely to discussion; there will not be lengthy presentations. To make the best use of time, the participants must obviously begin with certain common understandings, particularly about basic terms and concepts, the central issues most worth examining, and the nature and role of research in relation to educational planning. Let us consider first the meaning of research in the context of this Workshop.

2. *An open-ended view of research*

Any meeting about research runs the risk of bogging down in a metaphysical debate over what research is and is not, and over hairsplitting distinctions between 'basic' and 'applied' research, or 'fact-finding' and 'analysis' versus 'true' research. We will do well, I suggest, to husband our valuable time for more important purposes by avoiding a repetition of this perennial debate; it has little relevance to the business at hand. What the Workshop is interested in is not a sophisticated, restrictive definition of research but any type of intelligent fact-finding, analysis or inquiry which can broaden and deepen our understanding of educational planning and of how to make it more useful. This calls for a generous and open-ended definition of research.

There are, however, several distinctions which are quite germane to the topic of the Workshop. These are discussed briefly below.

3. *Educational research versus research on educational planning*

The first of these distinctions is the one popularly made between Educational Research and research bearing on educational planning. This, I submit, is a spurious distinction. There are no valid intellectual grounds for regarding these two as mutually exclusive domains of research; the distinction is largely institutional and the unhappy result of historical accident.

By any logic, the concept of educational research ought to embrace any and all problems and aspects of the educational process and enterprises—from how and what an individual learns to how a whole educational system functions, internally and in relation to its society and economy. But in practice, of course, the term Educational Research has been typically used in academic circles to mean something much narrower than this. It has come to be associated with limited (though important) pedagogical questions, mainly concerning the individual learner and teacher and particular content and methods of instruction. Such research has drawn primarily upon psychology and to a lesser degree upon sociology; it has shied away from such other social science areas as Economics, Political Science and Public Administration, just as they have traditionally shied away from research about education.

This narrow view of Educational Research has had two particularly damaging results. First, it has meant that many other important educational questions—having to do, for example, with educational objectives, priorities and consequences and with the planning, management and adaptation of educational systems to changing needs—have been seriously neglected, to the detriment of all concerned. Second, it has resulted in Educational Research being intellectually isolated from the rest of the research community, thereby depriving it of important intellectual nourishment. This isolation is symbolized by the label 'Educational Researcher' (regarded as a separate species of scholar) and by the widely held fiction that Education is a discrete and selfcontained discipline or science.

We are not concerned here with why this happened or whose fault it was (if indeed it was anybody's in particular) but we must certainly be concerned with how to remedy the situation, with how to broaden the horizons of educational research and how to end its intellectual isolation.

Fortunately, there have been encouraging developments in this direction in the past few years, some of them prompted by the new interest in educational planning. The object now must be to encourage and strengthen these promising trends by inviting a wider range of participation by *all* the social sciences and other relevant fields in educational research of all sorts, and by strengthening the dialogue and collaboration between those interested mainly in particular pedagogical questions and those interested in broader problems of educational development. What is needed is not more 'Educational Researchers' but more able scholars from a wide range of fields doing research about education.

Fortunately, because the problems involved in educational planning are so diverse and so conspicuously inter-disciplinary in character, it is virtually impossible for researchers in this area of educational research to pretend omniscience and to retreat into an academic ghetto of their own. Research about educational planning clearly requires the collaborative efforts of scholars and practitioners knowledgeable about pedagogy, educational administration, economics, psychology, sociology, communications, anthropology, demography, law, history, architecture and even engineering. To create a new breed called Educational Planning Researchers, presumed to be competent in all these matters, would be a fraud and a patent absurdity. They would soon become intellectually isolated, sterile and ineffective, and meanwhile a wide array of urgent educational problems would still go begging for attention.

If the above diagnosis is accepted, then it follows that the Workshop should keep in view, as it considers the future of research in this field, not only the researchers who inhabit Institutes and Graduate Schools of Education, or Centres and Institutes of Educational Planning, but researchers and analysts from *all* the Social Sciences as well as other relevant professions and disciplines who have something important to give to the advancement of education.

It follows also that, while it makes sense to have a division of labour in educational research among various institutions, befitting their respective traditions, interests, strengths and limitations, all such institutions should regard and conduct themselves as members of a close-knit family, not as partisans of rival tongs.

4. *Isolated research versus comparative research*

The second distinction relevant to the Workshop's considerations is between (a) research done in isolated local or national situations, specifically to meet indigenous needs (often involving universal types of problems), and (b) comparative research covering a wide diversity of local situations, aimed at achieving a deeper understanding of particular basic problems common to many places, or at discovering principles and methodologies which can have utility in many different situations.

The issue is not whether either of these types of research—local or comparative—is inherently more useful, scientific or prestigious than the other. Either can be good or poor research depending on how it is done. The point is rather that by recognizing this distinction we can see more clearly how research groups with quite different missions and orientations (local, national, regional, international) can collaborate fruitfully to their mutual advantage.

An organization such as the IIEP, for example, which is concerned with comparative research on an international scale, can be most productive if it is able to draw upon the strengths of various locally and regionally oriented research groups that are close to the realities of a diversity of specific situations. The latter groups in turn can perform best if, through association with wider ranging comparative research efforts, they are able to see their local and regional situations in a broader and less parochial perspective.

Likewise one can conceive of mutually rewarding partnerships springing up between Unesco regional centres and outside universities whose faculty members and graduate students are in need of a good operational base for doing empirical research in a particular region. Both parties would have much to contribute to each other's work, even though their basic mission and orientation was quite different. The potential benefits of such arrangements are so obvious it is surprising that partnerships of this sort have not already been formed. Perhaps some of the Workshop participants can conspire among themselves to initiate action in this direction.

5. *Research on problems versus research on methodologies*

The third distinction is between (a) research aimed at achieving a deeper understanding of one or another *basic problem* with which educational planning must deal (e.g. improving the supply of teachers, strengthening financial resources, improving efficiency, matching the curriculum to real needs, meeting manpower requirements, etc.) and (b) research aimed at developing better *techniques and methodologies* for dealing with such problems. To be sure, these two objectives are sometimes fused in a single research project, but the distinction is still worth making, if only to remind ourselves that the main justification for developing new concepts and methods of educational planning is to be able to deal more effectively with real education problems in real situations. For this reason, research on problems must ordinarily precede research on methods; otherwise the researcher may emerge with make-believe solutions to unreal problems. Such make-believe solutions can lead to a pretentious and bogus scientism which can misdirect and confuse policymakers, with the end result of discrediting the whole idea of educational planning.

The above observations should not be misconstrued, however, as an attack against abstract theoretical research in contrast to empirical research. Intellectual forays on the theoretical frontiers of educational planning (involving, for example, the construction of ingenious analytical models which necessarily oversimplify reality) can play a vital role in the long-run advancement of educational planning. The danger lies in misconstruing such creative intellectual exercises as packaged solutions to real problems. They may indeed open the way to improved practical methodologies for tomorrow, but it is deceptive to suggest that they can answer today's pressing needs, especially where pertinent data are extremely scarce.

To sum up on this particular point, as the Workshop considers research topics for the future, it will be important to distinguish between 'problem research' and 'methodological research' and, within the latter category, between research on methodologies that can have practical application in the near future and more theoretical exercises whose practical utility lies in the more distant future. It should be emphasized that there is no basis for invidious distinctions or conflict between these different types of research, they are in fact highly interdependent and mutually supporting. But it is important to keep them in balance and in proper relationship.

6. *Intentional and fortuitous research*

The final distinction to be made here—though the Workshop will no doubt call attention to other useful ones—is between (a) research that is consciously directed toward improving educational planning, by persons or organizations with a special interest in this objective, and (b) research which fortuitously benefits educational planning but which was undertaken with other motives.

The first category is typified by the IIEP's research, by certain Unesco- and OECD-sponsored research, and by studies done by certain university centres that have a special interest in problems of educational development. The second category (research with fortuitous benefits to educational planning) is illustrated by some of the interesting sociological studies of student career aspirations and of social and economic mobility in Africa and Asia, and by various economic and sociological studies of rural development. It is also illustrated by various linguistic, demographic and political studies that are helpful to educational planning even though that was not their intended purpose.

Studies of the latter sort, done through the eyes of a single academic discipline, can often give educational planners valuable new insights and more valid premises to use in projecting the likely consequences of particular educational policies and programmes. When we stop to think about it, most of our key assumptions about the impact of education on social change, economic development and on the lives of individuals, are essentially hunches and articles of folklore or blind faith rather than scientifically established truths. What do we really know, for example, about the consequences of spreading low-quality, conventional, primary education, imported from former imperial nations, among hundreds of remote African villages? Or what do we actually know about the real consequences of boosting the output of university graduates to three or four times the number of appropriate jobs available for them? How valid and wise, or how foolish and mischievous, is the doctrinaire assumption that 'education is a good thing, therefore the more of it the better'?

To take another example, developing countries and donor agencies often get conflicting advice from different types of experts on the 'best way' to develop technical skills—through formal technical schools (usually modelled after those the expert is familiar with at home) or on the contrary through one or another type of 'non-formal' training programme. What is an objective educational planner to assume when he has so little firm knowledge about the comparative costs and effectiveness of these different approaches to technical training? Or again, just think of the dubious assumptions about the efficacy of conventional teacher training which underlie so many educational plans, assumptions which objective observers know to be false in the bulk of cases but which have never been tested by research.

In this matter, then, it would seem advisable for the Workshop, while shaping an agenda for future research, to give close attention to the most critical assumptions that educational planners are usually obliged to make willy-nilly on the basis of myth or guess, simply because there has been no objective research on the subject. Its conclusions can give important encouragement and useful guidance to sociologists, political scientists, economists and others who are in good position to replace myth and folklore with demonstrable truths about such questions.

7. *The present state of knowledge*

This leads to the broader question of where research stands today, what progress has been made in recent years, which areas are relatively firm and which ones are conspicuously weak.

Because of the diverse aspects of educational planning, it is virtually impossible for any one person to keep fully abreast of new research and to have a balanced perspective of where the frontiers lie at any one time. Still, for what it is worth, I shall venture the following general observations about developments in recent years.

Prior to 1960 there had been hardly any research directed at the needs of educational planning. The subject itself was largely unknown among scholars, though various social scientists had done a number of relevant studies of the 'fortuitously beneficial' type mentioned earlier. In the intervening years, however, research about educational planning and its practical application as well have advanced impressively, so much so that the scope and depth of our ignorance is much clearer today.

Of all the social scientists, economists and statisticians were unquestionably the most active in this period in examining the problems of educational planning and in developing new concepts and analytical methods. Experienced educators, particularly with administrative experience, also played an important role, partly by educating the economists about education, helping them to keep a more balanced perspective by reminding them constantly of the important non-economic and qualitative influences and objectives involved in educational development.

It was during this period that 'the economics of education' emerged as a recognized and legitimate realm of investigation by university economists, thanks especially to the creative and courageous leadership of a number of reputable economists who had a genuine interest in education. For the most part, however, the focus has been on what might be called the *external* economics of education, on the financial, manpower and investment linkages between educational systems and their economy, and on the broad integration of educational plans with over-all economic development plans. Few economists ventured to poke their noses into the *internal* affairs of education, into such delicate matters as the efficiency of resource use, the efficacy of teacher salary structures, the modes of teacher utilization, or the relevance of curriculum content to the real needs of students and society. Their tendency instead was to take the educational system as it was and to concentrate on how much larger it could and should get, how the pattern of student output should be shifted to match the pattern of manpower requirements for economic growth, and what the financial costs of all this would be. Because of these efforts by economists and statisticians, often teamed with educators, there has been considerable advancement in recent years in the methods for analyzing and planning the financial and manpower aspects of education and for assessing roughly the 'yield' on educational investment.

More recently, however, there has also been a growing effort to discover better means for investigating and improving the *internal* economics of education. The IIEP, for example, is at present completing a series of case studies on the uses of cost analysis for improving educational efficiency and planning, and plans to move on next to a broader study of 'cost-effectiveness', linking resource costs to educational results. In the same vein there is increasing interest in various quarters in applying 'systems analysis', 'operations analysis' and programme budgeting techniques (such as PPBS) to education. All these approaches inevitably subject the *internal* affairs of education to greater critical scrutiny and serve to relate the economic aspects more directly to the pedagogical aspects.

During the past ten years there have also been marked advances in statistical techniques of educational planning, for example for projecting student enrolments, teacher and space requirements, for determining drop-out and repeater rates, and 'costing' educational expansion plans. A variety of fairly clear-cut procedures have emerged which can be taught systematically and applied in virtually any situation.

This is not to say that there is not great room for further improvement in all of the foregoing matters. But in view of the wide interest in them that now exists and the momentum that has been generated, one can reasonably expect rapid further advancement. We can conclude, therefore, that the more or less 'mechanical' methodologies for educational planning, particularly for straightforward quantitative expansion, are in much better shape today than ten years ago, and are adequate for doing a reasonably effective job wherever there is an even moderately good supply of basic data. Certainly there is no longer any excuse, for example, for educational systems to set quantitative expansion targets that are grossly beyond the realm of feasibility; the techniques are readily available for avoiding such miscalculations, for anyone who seriously wants to use them.

But on other major fronts of educational planning research has lagged seriously. There are exceptions, but on the whole other social scientists have not turned their attention to the problems of educational planning and development as the economists have done. This fact becomes painfully evident as educational planners extend their vision beyond the simple quantitative and economic dimensions of educational development to questions of *qualitative* change, implementation of plans, improving educational management, adapting the curriculum to real needs, and the impacts of education on social change. When one peers beyond the now routine statistical operations involved in planning simply the expansion of education, a host of fascinating and complex problems come into view that lie well beyond the normal reach of economists and pedagogical experts. Indeed, many appear to lie beyond the present grasp of *any* established field of knowledge. Nevertheless, these other fields which have lagged behind economics in contributing their share to educational planning could unquestionably provide extremely valuable help if they put their mind to it. This becomes obvious when we consider some of the central problems with which educational planning must deal in the future. There is plenty of work left for economists to do, but even more for sociologists, political scientists, cultural anthropologists and other social scientists, not to mention specialists in management and administration.

8. *Problems for future research*

For the same reason that education must be planned to get the best results from limited resources, research must also be planned. The slogan that 'It is a good thing, therefore the more of it the better', is just as misleading when applied to research as when applied to education. The real productivity of research depends not simply on how much but on what kind, on whether the effort is guided by a well conceived strategy and focused on real and crucial problems, or whether instead it is diffused aimlessly over a multiplicity of topics.

Educational planners whose vantage point gives them a broad perspective of educational development have an obligation to give specialized researchers their best assessment of what the most critical problems are likely to be that will confront educational systems in coming years, so that researchers of all sorts can formulate appropriate research strategies, priorities and specific plans for attacking these problems (in so far as they are problems that research can actually do something about—which is not always the case).

Each of us, of course, has his own assessment of the prospects and there is much room for legitimate differences of judgment. Still, there has been a surprisingly wide consensus of opinion, for example, among educational leaders from many countries, with respect to the general diagnosis given in the Working Paper prepared by the IIEP for the Williamsburg International Conference on the World Crisis in Education (October, 1967), and in Unesco's International Conference on Educational Planning (Paris, 1968).

The burden of the argument runs as follows: educational systems throughout the world have expanded phenomenally over the past ten to fifteen years in response to an explosive increase in educational demand, but they have failed to make the necessary changes in themselves required to adapt education to the rapidly changing needs and conditions of its students, society and economy. As a consequence, educational systems now find themselves in a serious crisis which threatens to grow steadily worse. The crisis is essentially a crisis of maladjustment, taking many forms, between educational systems and their environment. Rising social demand is out of balance with educational capacity; educational output is getting increasingly out of balance with manpower requirements and the supply of jobs; the curriculum and teaching methods are woefully ill-fitted to the real needs of students and to their wide individual differences; educational administration is obsolete and overwhelmed by its new and larger tasks; educational resource needs are growing rapidly beyond resource availabilities.

To escape from this educational crisis nations must first of all abandon their simplistic strategy of 'linear expansion' which mainly calls for making the existing educational system rapidly larger in its traditional image; they must instead adopt a strategy of educational change and innovation, calculated to make more efficient use of educational resources and to adapt educational structures, content and methods to the dynamically changing needs and circumstances of the world around them. This new strategy must give major emphasis to:

1. *The modernization of educational management*—including the recruitment and training of skilled management teams of appropriate specialists; the development and application of more adequate instruments for diagnosing, planning and evaluating the performance of educational systems and sub-systems; and new procedures to ensure much wider participation in planning and decision-making by lower echelon administrators, teachers, students and interested members of the general public.
2. *The modernization of teachers*—including far-reaching reforms of teacher recruitment and training, changes in salary structures and in teacher functions, and the opening up of new career development opportunities for the ablest teachers.
3. *The modernization of content and the learning process*—including drastic reforms of the curriculum, abandoning the chronological grade system and self-contained classroom, innovations in the methods of teaching and learning—all with a view to achieving individualized education within the context of mass education so as to give real meaning to the idea of equal educational opportunity.
4. *Increased emphasis on 'non-formal' education*—integrating it with formal education in order to make lifelong learning an efficient and rewarding process and, in the case of poorer countries, to provide opportunities for people deprived of formal education.

The foregoing capsule diagnosis and prescription for the crisis facing educational systems throughout the world provides a very rough framework within which to search for priority research topics for the future. It also underscores the major new dimensions that must now be added to educational planning if it is to become a major force for educational change and not an obstacle to it. The simplest kind of planning is to provide for the steady enlargement of an existing educational order in its old image, but this is precisely the kind of planning that could do more harm than good, by entrenching the old order even more firmly. What we clearly need is *educational planning for change.* It will take the help and ingenuity of the world's best social science researchers to achieve such planning and to make it effective.

IIEP book list

The following books, published by Unesco/IIEP, are obtainable from the Institute or from Unesco and its national distributors throughout the world:

Educational development in Africa (1969. Three volumes, containing eleven African research monographs)

Educational planning: a bibliography (1964)

Educational planning: a directory of training and research institutions (1968)

Educational planning in the USSR (1968)

Fundamentals of educational planning (series of booklets; full current list available on request)

Manpower aspects of educational planning (1968)

Methodologies of educational planning for developing countries by J. D. Chesswas (1969)

Monographies africaines (five titles, in French only; list available on request)

New educational media in action: case studies for planners (1967. Three volumes)

The new media: memo to educational planners by W. Schramm, P. H. Coombs, F. Kahnert, J. Lyle (1967. A report including analytical conclusions based on the above three volumes of case studies)

Problems and strategies of educational planning: lessons from Latin America (1965)

Qualitative aspects of educational planning (1969)

The following books, produced in but not published by the Institute, are obtainable through normal bookselling channels:

Quantitative methodologies of educational planning by Héctor Correa. Published by International Textbook Co., Scranton, Pa., 1969

The world educational crisis: a systems analysis by Philip H. Coombs. Published by Oxford University Press, New York, London and Toronto, 1968

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